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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,844	03/19/2001	Louis Peter Huber	P04870US0	9248

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DES MOINES, IA 50309-2721

EXAMINER

EASTHOM, KARL D

ART UNIT PAPER NUMBER

2832

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,844

Applicant(s)

Huber et al.

Examiner

Karl Easthom

Art Unit

2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 25, 2003
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 15-18, and 20-25 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-18, and 20-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-5, 7-11, 13-14, 16-18 and 24-25 are rejected under 35 USC 103 as being unpatentable over Chiang et al. (WO 99/53505) in view of Abe et al. The claimed invention is disclosed at Figs. 6-9 of Chiang except the barrier made of nickel. Nickel is a well known conductor, and Abe teaches its use as a replacement for solder at col. 4, lines 40-47, so that it would have been obvious to employ that for the solder barrier 54 of Chiang for the purpose of replacing that solder with a known good available conductor for resistors such as the nickel or nickel alloy suggested. Chiang discloses that any good conductor can be used at page 11, lines 39+. For claim 1, the encapsulant is 53. It is described as an insulator at page 10, and is not an adhesive for one embodiment, meeting the claims. As to claim 18, the Examiner takes Official Notice that glass is a well known electrical insulator, citing The Random House College Dictionary, (revised 1980), as proof therefor, (defining insulator as "a material of low conductivity, as glass or porcelain..."). Hence, given the disclosure of insulator as the preferred material in combination with the known definition, it would have been obvious to employ a known material having the desired properties in order to perform the function which is suggested,

that of insulation. As to the remaining claims reciting more than one chip, at page 12, several devices are disclosed as stacked together, meeting the claims. In claim 2, the resistive element is a polymer with metal and nonconductive fillers, that could be described as a thick film, see page 5. The substrates are 55, with end caps 31, 51 on the ends thereof, and the resistive films 17.

4. Claims 1-13, 15-18, and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6283301 in view of Hashimoto, or as an alternative, further in view of Claypool. JP '301 discloses the claimed invention at Fig. 6c except the nickel barrier and except for disclosing film resistors stacked together with glass therebetween. JP '301 discloses elements 31, 32, 33 can all be resistors of the same type, where different types of chips that are the same size are stacked together to save space, and since two or more chip elements are disclosed as stacked. Further, applicant admits at page 1 that the resistors of the same type have been stacked as is known to increase capacity. Finally, the chips of Hashimoto suggest stacking where they are greater in height than the middle so that they can be flipped or stacked. The end caps are of sliver for claims 18 and 22. The adhesives noted on page 2 of the machine translation are noted as "desirable", hence, it is contemplated that they will not be used. The metal barrier is 13. While the barrier is noted as Cu, other metals are disclosed generally at par. 15, Nickel barriers are known for attachment to metal end caps and for solderability, such as the nickel 9a of Hashimoto. It would have been obvious to replace the Cu metal cap 33 with one made of nickel where each reference discloses a metal connected to a ruthenium resistor, for the purpose of forming a good solderable lead where the purpose is to solder the device of '301 to a circuit board. The glass layer of Hashimoto 94 meets the claims as the encapsulant, or as the glass for claims 6-7, and 18, since it

would be between the stacked chips. In claim 16, several are disclosed as stacked so that it would have been obvious to employ any number for stacking. As the alternative, Claypool discloses a barrier terminal of comprising nickel or a nickel alloy at col. 3, lines 1-17 that is similar to that of JP '301 and useful for resistors or capacitors, such that it would have been obvious to replace the barrier of JP '301 which appears similar to the barrier of Claypool where both are used to join stacks of electrical elements together.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6283301 in view of Hashimoto, further in view of Nakamura et al. The invention is disclosed as noted above except the silver palladium. That composition is a known electrode for ruthenium resistors as disclosed by Nakamura, such that it would have been obvious to employ it for the electrodes of JP '301 as modified.

6. Applicant's arguments filed 8/6/2 have been fully considered but they are moot or are not persuasive. Applicant argues that neither Hashimoto nor JP '301 disclose two resistor films on substrates. This is not persuasive where chips are stacked, and chips with films are disclosed in both references, the latter disclosing at least two chips stacked.

7. Applicant's arguments filed 2/25/03 have been fully considered but they are moot or not persuasive. Applicant argues that the term "without adhesive" renders the claims distinct. This is not correct since the term "adhesive" is only a preferred embodiment for JP '301, and hence the suggestion for not having an adhesive is disclosed. The encapsulant is the glass layer of the of the Hashimoto device that would be between the chips as claimed if stacked as suggested by JP '301.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703) 308-3306. The examiner can normally be reached on M-Th from 5:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


KARL D. EASTHOM
PRIMARY EXAMINER